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BEACON ARITHMETIC

BOOK TWO · PART TWO

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E. Stedall

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BEACON ARITHMETIC

BOOK TWO PART TWO

BY

C. M. FLEMING

Illustrated by

HERRY PERRY

GINN AND COMPANY LTD
QUEEN SQUARE, LONDON, W.C.1

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For the Infant School

Beacon Number Books

by C. M. Fleming

Book One	80 pages
Book Two	80 pages
Book Three	80 pages
Teachers' Manual	64 pages

For the Primary School

Beacon Arithmetic Series

by C. M. Fleming

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Part Two	128 pages
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Part One	128 pages
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Part One	128 pages
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Answer Books for each part	
Question-Answer Cards	
Addition, Subtraction, Multiplication (100 cards in each set)	
Division (90 cards in set)	
Diagnostic and Survey Tests Work Sheets	
Teachers' Manual	272 pages

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TO EACH TEACHER

THE Beacon Arithmetic Series is an outcome of the author's experience that if boys and girls are allowed access to the right kind of arithmetic, presented in the right way, the satisfaction of success will follow.

It is intended as a sequel to the systematic introduction to the meaning of numbers, and the understanding of the processes, which is presented in the Beacon Number Books devised for use in the later stages of infant school work. The first part of Book One contains detailed revision of the addition and subtraction facts. Such revision is not a waste of time but provides a means of consolidating what has been learnt and of increasing speed and certainty in the use of these fundamental processes. It is suggested that the interest of the pupils be directed towards improving on their own records from day to day and that attention be drawn to the usefulness of rapidity as well as accuracy.

It is a common difficulty in the early stages of arithmetic teaching that whereas pupils can " do the number work " their reading experience is such that they cannot use their number ability in even the simplest of problems — confession that they have neither met the language of arithmetic nor had adequate practice in reading for exact meaning. Teachers will find that many of these early reading difficulties will not arise with pupils who, before they begin the books in this series, have read, worked through and enjoyed the Number Books and the Reader which have been designed to precede it.

The books are addressed directly to the pupil so that, with a minimum of oral instruction, a large amount of practice material is available. Their contents are so selected as to give approximately equal practice in all the items of the basic tables and in each step of the essential processes in computation, problem-solving and measurement. Frequent and varied use of the Question-Answer Cards, as suggested in the Teacher's Book, is an essential part of this practice.

Pupils differ in rate of learning, in freshness of attention, in health and in regularity of attendance. Their difficulties likewise vary, and the determination of their arithmetical needs is as important to the teacher as is diagnosis of their physical ailments to a doctor. Such diagnosis of weaknesses is facilitated by the arrangement of the material in chapters, at the end of each of which are five tests—three in the Pupil's Book, under the titles *A page to climb on*, *Pupils' own test*, *A page to race on*, and two additional tests in the form of consumable work sheets. These tests are so organised that from the position of errors the necessary remedial practice may be rapidly ascertained and prescribed.

The content of each lesson is indicated clearly, and each chapter with revision, diagnostic tests, and remedial suggestions (see Teacher's Book) is complete in itself. The chapters may, therefore, be taken in any order which fits the requirements of a local scheme of work. This arrangement also facilitates the use of the books whether pupils work individually or in groups.

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Tests
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Additional forms of these tests are available in the form of consumable work sheets. The answers to them are included in the Teachers' Manual.

Speed drill
Pages 13, 19, 37, 56, 88, 128

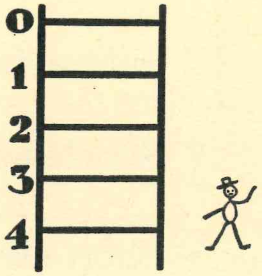
TO EACH BOY AND GIRL

This book is made for you.

On some pages you will see the words :

A page to climb on

When you come to one of these pages, draw a picture of a ladder in your notebook, like this :



When you have finished your work on the page, count the sums in which you were wrong.

If you have no sums wrong, draw a little man on the top step of the ladder. Put him on the step marked 1 if you have one sum wrong, and so on. Try to keep him as high as you can.

On some pages you will see the words :

A page to race on

On these pages see how many sums you can do in three minutes. Use a sand glass, if you have one, to measure the time. When you have a moment to spare, go back to these pages and try to do still more sums in three minutes.

Chapter I Money and length

This picture shows you some Beacon Street boys jumping. Can you find Bob? You have not learnt his name before.

Bob jumped 3 feet and 1 inch.

Jack jumped 2 feet and 11 inches.

How much higher was Bob's jump?

Then Tom tried to jump.

He could jump only 2 feet and 1 inch.

How much higher could Bob jump than Tom?

How much less did Tom jump than Jack?

Lesson 1

Money

Find the sum of :

s.	d.	s.	d.	s.	d.	s.	d.
6	7¾	5	8½	4	8½	3	8¾
5	4½	6	4½	7	6¾	6	4¾
12	0¼	12	1	12	3¼		

s.	d.	s.	d.	s.	d.	s.	d.
5	8¾	6	7½	8	5¾	3	4½
9	7¼	6	5½	3	7¾	8	8¾

s.	d.	s.	d.	s.	d.	s.	d.
4	5½	6	8½	4	7¾	8	3¾
6	8¾	7	8½	9	6½	9	8¾

Find the difference between :

s.	d.	s.	d.	s.	d.	s.	d.
14	1½	12	5	11	0½	17	4
5	5¾	7	8¼	7	7¾	8	6¾

s.	d.	s.	d.	s.	d.	s.	d.
12	2	15	0	13	2¼	15	1
7	7½	8	8¼	7	6¾	5	6¼

Questions to answer

1. Meg's father is 5 feet 8 inches tall and the top of the door is 6 inches higher. How high is the door?
2. Jessie says her father is 6 feet tall and she is 4 feet 2 inches. How much has she to grow, before she can be as tall as he is?
3. Jack wants to buy a packet of stamps costing 2 s. He saves 2 d. each week. How long must he wait?

4. When mother went to the butcher's she had 13 s. 5½ d. in her bag. She spent 8 s. 7 d. How much has she left?
5. Mother paid the baker 6 s. 0¾ d. and the grocer 9 s. 4½ d. How much was that in all?

6. How much did Mary need before she could go to the pictures, if it cost 3 d. to get in and the bus fare was a penny each way?

A Savings Bank game

Jack's class is playing at Savings Bank.

It is Bob's turn to come to the bank.

He has written a question on a piece of paper.

"I am saving to buy something which costs 14/1. I have 8/4. How much more do I need?"

(Bob has found out that 14/1 and 8/4 is a short way of writing 14 s. 1 d. and 8 s. 4 d.)

Bob writes the figures on the blackboard and works out the answer. The rest of the class do it in their books.

If Bob makes a mistake he loses his place and another pupil goes to the bank with a question.

Play this game with your friends. Ask both adding and subtracting questions.

Lesson 2

A page to climb on

Find the sum of :

s.	d.	s.	d.	s.	d.	s.	d.
8	2½	6	4¾	9	4½	7	5¾
8	3½	9	4½	7	2¾	8	4¾

s.	d.	s.	d.	s.	d.	s.	d.
3	4¾	7	8¼	4	5½	6	6¾
6	7½	6	8¾	5	7¾	9	6¼

Find the difference between :

s.	d.	s.	d.	s.	d.	s.	d.
15	4¼	10	0½	11	1	13	2¾
6	9	6	9	6	8	4	6

s.	d.	s.	d.	s.	d.	s.	d.
16	2	11	9¼	10	8	14	8¼
9	0¼	6	8½	9	4½	6	2¾

s.	d.	s.	d.	s.	d.	s.	d.
11	6¼	17	5	15	4¼	14	3½
7	8½	7	7½	7	8¾	8	6¾

On the next page is a test for you to try.

Pupils' own test 19

Find the sum of :

s.	d.	s.	d.	s.	d.	
	4				4	
	4		7		5	**Part I**
	6		9		8	**(Lesson 10)**

s.	d.	s.	d.	s.	d.	
2	7¼	3	8	1	9	**Part I**
9	7	8	6½	9	7	**(Lesson 20)**

Find the difference between :

s.	d.	s.	d.	s.	d.	
18	3½	15	1¼	17	4	**Part I**
8	8	6	5	8	8	**(Lesson 37)**

s.	d.	s.	d.	s.	d.	
11	4¼	16	9½	14	8¼	**Part I**
5	0¾	8	2¾	7	7½	**(Lesson 59)**

s.	d.	s.	d.	s.	d.	
12	2½	14	3	13	1¼	**This book**
6	5¾	7	7¼	3	4½	**(Lesson 1)**

A page to race on

Find the sum of :

s.	d.	s.	d.	s.	d.	s.	d.
	7		6		5		3
	8		2		4		3
	2		7		7		8

What is the total when we add :

s.	d.	s.	d.	s.	d.	s.	d.
1	8½	2	9		5	3	7
9	5	8	6¼	9	9¾	7	5

Find the difference between :

s.	d.	s.	d.	s.	d.	s.	d.
11	3¼	12	1	10	0¾	13	4
5	7	6	9		3	7	9

s.	d.	s.	d.	s.	d.	s.	d.
13	3¼	11	9	15	6¼	14	7½
3	2½	2	4½	6	2¾	6	0¾

s.	d.	s.	d.	s.	d.	s.	d.
15	1¼	12	0½	16	2	17	4¼
6	6¾	2	5¾	6	7¼	8	8½

Lesson 3 *Here are some divisions*

You remember that 10) 120 means

"How many 10's are in 120?"

Look back at pages 97, 98 and 107 of Part One if you do not remember the answers.

10) 90   12) 60   12) 36   10) 110   10) 80

12) 48   11) 33   10) 100   10) 0   11) 44

10) 70   11) 0   10) 60   12) 0   12) 24

10) 30   11) 55   10) 40   10) 120   12) 12

What are the missing factors?

4 × = 48.   3 × = 30.   5 × = 60.

12 × = 36.   12 × = 24.   12 × = 60.

Write down any two factors for these numbers:

40, 90, 60, 36, 24, 48, 44, 55.

Show your paper to your teacher.

Lesson 4 Length

You will remember that there are

4 quarter inches ($\frac{1}{4}$ in.) in one inch, and

2 half inches ($\frac{1}{2}$ in.) in one inch.

Find the total when we add:

ft.	in.	ft.	in.	ft.	in.	ft.	in.
4	$8\frac{1}{2}$	3	$7\frac{1}{4}$	1	$9\frac{1}{2}$	5	$7\frac{3}{4}$
6	$9\frac{1}{2}$	5	$7\frac{3}{4}$	4	$4\frac{3}{4}$	1	$8\frac{3}{4}$
11	6	9	3	6	$2\frac{1}{4}$		

ft.	in.	ft.	in.	ft.	in.	ft.	in.
6	$5\frac{3}{4}$	4	$9\frac{1}{2}$	7	$6\frac{1}{2}$	3	$6\frac{1}{4}$
2	$7\frac{1}{4}$	5	$5\frac{3}{4}$	1	$6\frac{1}{2}$	3	$9\frac{3}{4}$

ft.	in.	ft.	in.	ft.	in.	ft.	in.
8	$5\frac{3}{4}$	7	$6\frac{1}{2}$	1	$9\frac{1}{4}$	4	$8\frac{3}{4}$
1	$9\frac{3}{4}$	2	$7\frac{1}{2}$	5	$9\frac{3}{4}$	3	$5\frac{3}{4}$

ft.	in.	ft.	in.	ft.	in.	ft.	in.
5	$3\frac{1}{2}$	8	$5\frac{3}{4}$	6	$7\frac{1}{2}$	5	$7\frac{3}{4}$
5	$7\frac{3}{4}$	8	$6\frac{1}{4}$	7	$8\frac{1}{2}$	7	$7\frac{1}{4}$

Find the difference between :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
12	2¼	10	1	15	4¼	9	0½
7	6½	8	8½	6	7¾		2¾
4	7¾	1	4½	8	8½		

ft.	in.	ft.	in.	ft.	in.	ft.	in.
7	1	11	4¼	14	2½	10	3¼
	3½	7	6½	6	7¾	7	8¾

ft.	in.	ft.	in.	ft.	in.	ft.	in.
9	1¼	8	0¼	14	5	11	4
6	9¾		3½	4	7½	5	8½

ft.	in.	ft.	in.	ft.	in.	ft.	in.
12	6½	15	2	8	0¼	9	1½
6	8¾	7	8½	4	5½	1	6¾

ft.	in.	ft.	in.	ft.	in.	ft.	in.
15	1¼	10	0¼	11	2¼	8	5½
8	5¾	6	4½	4	5¾	7	7¾

Lesson 5 *A writing exercise*

Write out these problems and find the answers, remembering to put feet under feet and inches under inches.

1. 6 ft. 2¾ in. + 4¾ in.
2. 7 in. + 4 ft. 6 in.
3. 7 ft. 7¼ in. − 5½ in.
4. 6 ft. 1¾ in. − 8 in.
5. 4 ft. 7 in. + 6 ft.
6. 4 ft. 10 in. + 4 ft. 2 in.
7. Find the sum of 4 ft. 7 in. and 5 ft. 4 in.
8. Take 5 in. from 7 ft. 5 in.
9. How much shorter is 3 ft. 5 in. than 11 ft. 2 in.?
10. What is 6 ft. 2¼ in. plus 6 ft. 8¾ in.?
11. What is 8 ft. 6½ in. minus 6 ft. 2¾ in.?
12. Find the difference between 7 in. and 2 ft. 4 in.
13. What must be added to 2 ft. to make 6 ft. 3 in.?
14. What is 5 ft. 1¼ in. minus 3 ft. 7¾ in.?

On the next page is a test for you.

Pupils' own test 20

Find the sum of :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
1	4½	6	8	2	9		7
3	9	4	4¾		5	3	8

Part I (Lesson 27)

Find the difference between :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
6	2	10	5¼	15	0	11	1
5	6	2	7	5	3	2	8

Part I (Lesson 44)

Find the sum of :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
6	3¾	1	6½	17	8¼		7½
	8¼	6	9¾	8	6¾	4	7½

Find the difference between :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
14	4¼	13	1	9	0¼	15	5½
4	8½	4	3½	4	6¾	7	7¾

This book (Lesson 4)

A page to race on

Find the sum of :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
5	8		6½	4	9	6	8
3	5	6	7		8¼	4	4

Find the difference between :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
14	3¾	11	2	16	0	8	1¼
8	8	1	5	7	4	2	3

Find the sum of :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
2	8¾	1	4½	2	8½		7¾
	6¼	3	7¾	4	9½	7	5¾

Find the difference between :

ft.	in.	ft.	in.	ft.	in.	ft.	in.
15	2	9	1¼	6	0½	9	3¼
8	8½	5	6½		4¾	8	5¾

Ask your teacher if you may go on to the next chapter.

Chapter II Addition

Tom liked to count the cars which passed.

One morning he saw 6 green ones, 15 black ones and 8 red ones.

What was the total number of cars he saw that morning?

Tom could find out by counting: 1, 2, 3, 4 and so on, but Jim had had larger additions to do at school. He could do it by adding:

```
 6
15
 8
```

This chapter shows you larger additions like those Jim could do.

Lesson 6 *Finding proofs for additions*

Write the answers to these additions:

4	7	9	3	5	8	6	9
7	4	3	9	8	5	9	6

What do you notice about each pair (that is to say, about each two)?

The answer to each pair is the same. It does not matter whether we add up or add down.

This is very useful to help us to find out if the answer to an addition is correct.

Now find answers to the next set of sums.

If your answers are correct, you will get the same answers to each pair.

20	70	44	80	55	90	92	43
70	20	80	44	90	55	43	92
86	66	59	40	2	19	67	65
66	86	40	59	19	2	65	67
20	3	30	77	49	87	7	96
3	20	77	30	87	49	96	7

Show your paper to your teacher.

Lesson 7

Addition

(8+9)+2= .
(9+7)+3= .
(6+6)+5= .
(4+7)+9= .

(6+9)+4= .
(9+4)+6= .
(7+4)+6= .
(6+5)+3= .

(5+6)+9= .
(6+6)+6= .
(4+8)+5= .
(9+5)+5= .

(6+7)+2= .
(5+8)+4= .
(9+9)+1= .
(7+7)+4= .

(9+7)+2= .
(8+6)+3= .

(4+9)+5= .
(1+9)+2= .
(8+4)+7= .
(9+8)+8= .

(9+2)+5= .
(8+3)+7= .
(3+8)+8= .
(2+9)+9= .

(9+3)+8= .
(5+7)+4= .
(3+9)+9= .
(8+6)+6= .

(4+8)+3= .
(8+7)+9= .
(4+9)+8= .
(3+9)+2= .

(5+6)+1= .
(7+5)+6= .

(8+5)+3= .
(9+6)+4= .
(4+7)+2= .
(9+3)+6= .

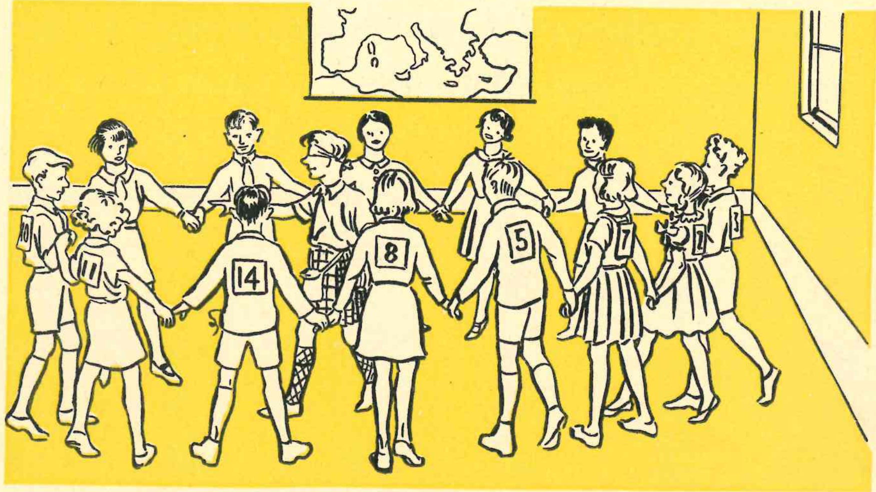
(6+4)+8= .
(7+3)+9= .
(8+4)+5= .
(7+5)+7= .

(8+5)+5= .
(9+4)+8= .
(7+6)+7= .
(7+7)+5= .

(7+9)+8= .
(8+3)+4= .
(8+8)+9= .
(5+8)+1= .

(7+8)+3= .
(8+9)+4= .

Blind Man addition



The class is playing at Blind Man addition.

George is the Blind Man. He has a card with a number pinned on his coat.

The class move round him in a ring. They have each a number pinned on at the back so that he cannot see it.

George shuts his eyes and touches one of them as they move round. The one whom he touches adds George's number to his own and tells the answer.

George tries to tell the number of the player he has caught. If he fails, he loses his place.

Lesson 8

Adding again

These additions are like those on page 22, but they are set down differently.

5	2	9	36	2	8
5	28	1	6	49	63
18	8	56	5	27	4
28	38	66			

19	7	3	6	3	9
2	3	79	5	8	3
6	19	2	85	72	23

7	19	6	1	3	6
7	40	4	6	2	7
14	9	67	8	9	20
10	3	22	32	66	38

9	1	7	6	77	4
8	89	86	6	6	6
44	6	4	57	4	66

8	6	82	9	80	4
6	1	50	4	9	5
20	9	8	50	5	16
6	92	1	57	2	34

A page to climb on

Try to have more sums right to-day than you had yesterday.

Add down and then add up.

8	3	8	6	5	6
6	27	38	7	8	9
53	7	13	77	53	19

67	4	4	5	16	5
5	7	99	6	8	7
6	19	6	78	8	82

6	8	57	14	25	3
35	9	3	17	25	8
5	94	4	16	25	44

3	6	4	15	7	6
5	3	4	13	42	66
60	2	52	13	43	17
4	73	12	3	6	10

27	51	4	73	96	4
43	27	1	76	23	4
50	26	7	84	90	45
29	63	48	7	5	65

Lesson 9 *Another page of additions*

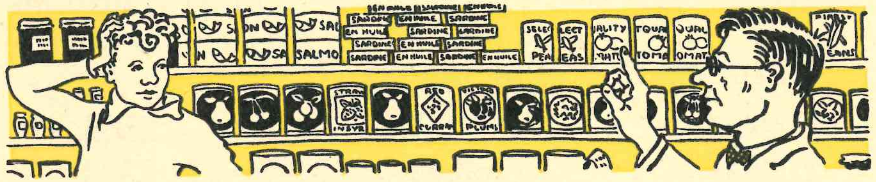
Add down and then add up.

462	198	809	157
501	258	460	764
721	433	319	584
423	321	611	284
2107	1210		

368	284	653	438
529	300	579	394
643	661	273	915
345	420	178	102

900	823	405	255
732	587	718	200
900	637	485	178
267	148	497	976

864	700	656	963
499	628	777	503
554	603	928	935
575	835	389	125



Jim's friends asked these questions to-day.

1. Jack said, " Our grocer counted his tins. He had 11 tins of salmon, 93 tins of pears and 17 tins of sardines. How many tins was that altogether? "
2. Mary said, " How many fewer tins of salmon had he than tins of sardines? "
3. " He next counted his jellies," said Bob. " He had 21 green, 21 red and 59 golden jellies. How many was that in all? "
4. " How many more golden jellies had he than red ones? " said Jean.
5. " Mother gets a morning paper costing 2 d., and an evening paper costing 1 d." said Jessie. " How much does she pay in 6 days? "

Make up some adding questions about the tins in your grocer's shop.

Lesson 10

More additions

Add down and then add up.

4819	1829	2566
2706	3815	2303
1535	2724	2909
9060	8368	

6963	5419	3803
626	2723	3677
904	1536	1909

5987	4290	5809
3704	8644	1911
200	8061	1947

6691	4080	4468
8184	9127	3701
7030	6162	1128

2904	1208	1602
605	3816	904
5809	4766	5586

Lesson 11

Adding again

Add down and then add up.

		68
20		375
3	109	988
8774	6605	7
87	4404	4356

7		8
97	15	9
5	46	126
398	9983	421
8351	82	2759
9728	36	580

7936	8003	456
883	7083	8001
100	8070	4793
72	7024	24

7778	196	
554	64	2148
6482	6	6327
1	955	7766

Lesson 12

Can you find the answer?

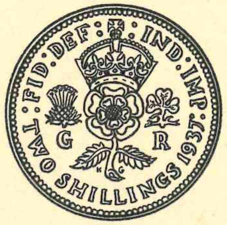
1. The teacher was dividing the 45 children in Mary's class into teams. Into Mary's team she put one-fifth of the class. How many would that be?
2. Mother bought one dozen tulips. She put 3 tulips in each of 3 vases. How many had she left for the fourth vase?

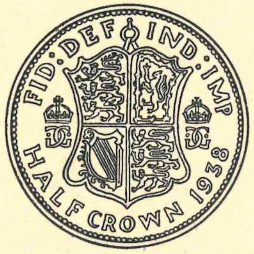
3. Mr. Wilson ordered 4 dozen crayons so that each boy in our class could have one. How many boys must there be in the class?
4. Fred's fence is 4 ft. 4 in. high. Bob's railing is 4 ft. 8 in. high. How much higher is Bob's railing than Fred's fence?
5. Fred jumped 3 ft. 5 in., and Bob jumped 4 in. higher than Fred. What height did Bob jump?

Lesson 13

Something to do

From the coin box pick out the two biggest silver coins. They look like this :





The smaller coin is worth two shillings. It is called a *florin*. Pick out two single shillings and put them beside it.

The larger coin is worth two shillings and sixpence. It is called a *halfcrown*. Pick out two single shillings and a sixpence and put them beside it.

You can get 5 florins or 4 halfcrowns for ten shillings.

You can get 10 florins or 8 halfcrowns for twenty shillings.

Another name for 20 shillings is one *pound*.

We write one pound like this : £1.

This page will help you with page 32.

A florin is worth two shillings. How many florins could you get for 4/-? All you have to do is to ask yourself, " How many 2's are in 4? "

1. How many florins could I get for 6/-?
2. How many florins could I get for 8/-?
3. 10/- is worth florins.
4. 12/- is worth florins.
5. 8 florins are equal to shillings.
6. 7 florins are equal to shillings.
7. £1 is worth shillings.
8. £1 is worth florins.

A halfcrown is worth 2/6.

9. £1 is worth halfcrowns.
10. 10/- is equal to halfcrowns.
11. If I had half-a-crown and spent 2/- how much would I have left?
12. What must I add to 4 florins to make 10/-?
13. What is the total when we add one florin and one halfcrown?
14. How much less is one florin than one half-crown?

Lesson 14

Yes, No, puzzles

Here are some puzzles that you can answer by *Yes* or *No*. Think them out carefully.

1. There are about three herrings in one pound.
   Would 4 pounds of herrings be enough to give a herring to each of 10 boys?
   (About how many herrings are in 1 pound?
   About how many herrings are in 4 pounds?
   Would 4 pounds be enough to give a herring to each of 10 boys?)
   Yes, No.
2. Mother gave me 1/- to buy buns. I bought 4 buns at 2 d. each. Had I enough money left to buy a 6 d. cake as well?
   Yes, No.
3. We had 4 boxes with 12 toffees in each box. Could we give 45 boys one toffee each?
   Yes, No.
4. There were 16 dates left in a box. Could Mother give five of us 4 dates each?
   Yes, No.

Lesson 15

A page to climb on

Add down and then add up.

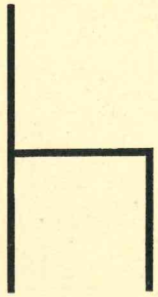
212	131	634	432
231	526	270	674
353	150	426	121

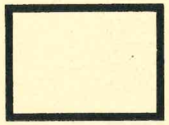
581	445	980	923
417	304	338	809
544	712	605	543

298	200	752	980
100	320	866	466
502	273	717	978

			700
134	342	616	609
742	430	495	847
533	638	752	313

	633	917	463
246	152	939	985
240	302	224	989
812	112	605	213





This is Meg's drawing of Mary's chair. Copy it.

Beside it is a drawing of the seat of the chair seen from above.

1. Is the seat a square or an *oblong*?
2. How many right angles has the seat?
3. Measure the seat carefully and draw a seat for Meg, making each side exactly half as long as the lines in the picture.
4. Have you ever tried to make a drawing that is exactly half the size of your pencil, your book, or your ruler? Perhaps your teacher will let you try.

Measure carefully first, and then draw each line half length.

Pupils' own test 21

Add down and then add up.

28 78 26	226 843 848 581	91 99 4918 8020 248
82 19 5	880 836 657 607	7699 6665 9749
57 47 93 31	500 744 566 338	4 5699 740 8000 796
55 32 33 34	904 400 724 320	71 76 9678 7008
Lesson **8**	**Lesson** **9**	**Lesson** **11**

A page to race on

On this page you are to add.

How many sums can you do in three minutes?

95 31 69	267 568 509 997	36 565 7382 699 2080
15 58 92	424 800 855 600	9632 1698 6448
54 87 5	781 849 407 973	5 45 9064 8096 61
43 79 50 67	587 436 564 333	99 971 7859 9290

Ask your teacher if you may go on to the next chapter.

Chapter III Subtraction

Mary is saving her pennies to buy a pram for her doll.

Her mother says she can get one when she has 144 pennies.

Mary has now saved 109 pennies.

How many more pennies does she need?

This chapter will help you to find out.

Look at the shops near your home and see how much the prams cost there.

Does a doll cost less than its pram?

Lesson 16 *Proving subtractions*

Prove that each subtraction is correct by adding the answer to the number above it, to see if you get the number in the top line.

138	983	129	147	98
45	111	44	51	51

101	137	171	112	106
68	57	82	68	36

Write down carefully the numbers for these problems, find their answers, and prove that the answers are correct.

1. Find the difference between one hundred and thirty-seven and ninety-seven.
2. What must be added to forty-nine to make one hundred and thirty-nine?
3. How much less is three hundred and ninety-five than four hundred and fifteen?

Show your paper to your teacher.

Prove each answer by addition.

265 109 156	890 501 389	742 103 639	7936 3208
982 603	598 109	855 607	9393 6108
975 107	867 809	620 102	932 404
894 209	481 109	863 304	8957 2708
891 206	684 605	676 309	9681 7103
970 303	883 109	974 608	9494 3406

Jim and Jack went camping one week-end.

1. Jack bought a cake of soap at 2 d., a hair-comb at 3 d., a penny bandage and a tube of ointment at 2 d. What change would he get out of 1/-?
2. Jim helped to make soup. They bought a two-penny bone, a penny leek, two-pennyworth of turnips, a pennyworth of parsley and 2 d. worth of lentils. What did the soup cost?
3. They saw two bus-loads of children from a Sunday School. There were 58 in one bus and 36 in another. How many was that?
4. Jack counted 55 trees on one side of a long road, and Jim saw 19 on the other side. How many trees was that?

Lesson 18

Subtraction again

Prove each answer by addition.

$$\begin{array}{rrrr} 305 & 902 & \overset{69}{703} & 7901 \\ \underline{108} & \underline{509} & \underline{404} & \underline{2602} \\ 197 & 393 & 299 & \end{array}$$

$$\begin{array}{rrrr} \overset{89}{906} & 200 & 504 & 6903 \\ \underline{109} & \underline{108} & \underline{208} & \underline{2405} \end{array}$$

$$\begin{array}{rrrr} 905 & 401 & 607 & 905 \\ \underline{307} & \underline{107} & \underline{108} & \underline{806} \end{array}$$

$$\begin{array}{rrrr} 504 & 893 & 900 & 8607 \\ \underline{305} & \underline{406} & \underline{309} & \underline{6409} \end{array}$$

$$\begin{array}{rrrr} 805 & 704 & 801 & 906 \\ \underline{208} & \underline{309} & \underline{305} & \underline{707} \end{array}$$

$$\begin{array}{rrrr} 805 & 601 & 106 & 7706 \\ \underline{409} & \underline{304} & \underline{98} & \underline{6509} \end{array}$$

Lesson 19

A reading puzzle

1. What is the sum of sixty-eight and eight?
2. What is the difference between ninety-two and nine?
3. What is the product of eight and seven?
4. Find the quotient of fifty-four and nine?

5. The sum of fifteen and ninety-five is ?
6. The product of eighty-three and three is ?
7. The quotient of forty-eight and eight is ?
8. The difference between seventy-four and sixteen is ?

9. is the product of nine and seven.
10. Eight is the sum of five and .
11. Sixty-two less equals seven.
12. is the quotient of forty-two and six.

13. What is the product of thirty-nine and two?
14. What is the quotient of twenty-five and five?
15. What must be added to nine to make forty?
16. Factors of forty-five are .

Lesson 20

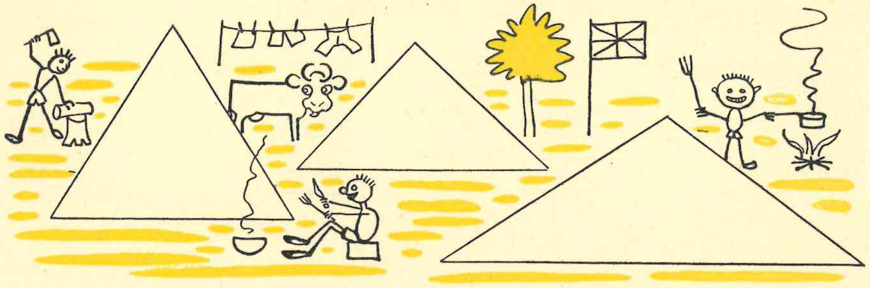
Subtraction

874 496 378	963 198 765	955 699 256	6747 2198
985 496	821 296	443 97	974 299
821 699	830 598	923 599	833 794
986 397	751 93	860 293	7446 6299
230 99	771 194	785 397	9694 5198
753 495	867 199	364 95	5741 2593

A page to climb on

Subtract:

825 496	783 395	631 398	142 93
823 198	930 194	841 297	8752 7595
786 497	952 696	763 198	6674 3195
870 795	961 393	983 297	942 895
864 596	752 297	221 194	6933 4199
975 497	874 696	724 698	7685 5599



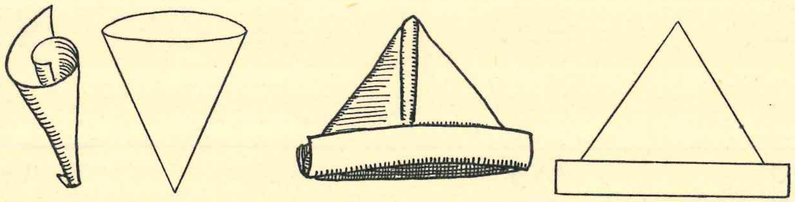
These are tents which Tom drew after Jim had been to the camp. Copy them in your book.

This is a new kind of shape.

1. How many corners has each shape?
2. Measure the corners with your " right angle ". Are there any right angles?

Shapes like these with three corners or *angles* are called *triangles.*

3. Do you know how to make a paper bag for sweets or a paper hat like these :



Get some paper and make a hat and a bag.

Lesson 21

Subtraction

606 498 108	802 795 7	701 199 502	8803 5697
707 298	500 196	605 597	903 295
602 297	603 199	801 196	9902 2398
800 297	401 294	602 397	8904 3597
903 696	806 797	508 499	7301 4296
803 597	901 195	703 694	9904 4699

Lesson 22

Measuring lengths

Look at your ruler and then write the answers to these questions as quickly as you can.

1. How many inches are in one foot?
2. How many inches are in 1 ft. 6 in.?
3. How many inches are in 3 ft.?
4. 15 in. is the same length as ft. in.

Sometimes we have to find the length of a room, a long carpet, or long pieces of cloth.

Instead of giving the answer in feet we can give it in *yards*. A *yard* is the same length as 3 feet, and you have just written that 3 feet is the same length as 36 inches.

Measure your desk with an inch tape or with a big ruler to find if it is more than 1 yard high.

Measure the door. Is it more than 1 yard wide? Is the blackboard 2 yards long?

Now turn back to page 37 and see how many additions you can do to-day in three minutes.

Length again

How many yards are there in 9 feet?

As there are 3 feet in 1 yard, this question is just another way of asking.

"How many 3's are in 9?"

We must divide: $\begin{array}{r} 3\,\underline{)\,9} \\ 3 \end{array}$. The answer is 3 *yards*.

You must divide in the same way to find the answers in this exercise.

1. How many yards are in 12 feet?
2. 18 feet are the same length as yards.
3. 24 feet are equal in length to yards.
4. 33 feet = yards.
5. 39 feet are equal in length to yards.
6. 15 feet are as short as yards.
7. 54 feet = yards.
8. 60 feet are the same length as yards.
9. 30 feet are as long as yards.
10. 21 feet are as long as yards.
11. How many yards are in 45 feet?
12. 36 feet are as short as yards.

Lesson 23 *More about length*

How many feet are there in 2 yards?

As there are 3 feet in 1 yard, this question is another way of asking :

"What is 2 times 3 ?"

3 × 2 = 6. The answer is 6 feet.

1. How many feet are in 5 yards?
2. 6 yards =
3. 10 yards is another name for feet.
4. 12 yards are equal in length to feet.
5. 7 yards = feet.
6. How many feet are in 15 yards?
7. 17 yards are as long as feet.
8. 19 yards = feet.
9. 8 yards are as short as feet.
10. 21 yards are the same length as feet.
11. How many feet are in 9 yards?
12. 14 yards are equal in length to feet.

On the next page are some more subtractions.

After you have found the answers, prove that they are correct.

Lesson 24 *Subtraction*

Prove each answer by addition.

$$\begin{array}{rrrr} 387 & 4111 & 700 & 700 \\ \underline{300} & \underline{3008} & \underline{400} & \underline{395} \\ 87 & 1103 & & \end{array}$$

$$\begin{array}{rrrr} 900 & 9002 & 9020 & 8040 \\ \underline{308} & \underline{6219} & \underline{7980} & \underline{6090} \end{array}$$

$$\begin{array}{rrrr} 3930 & 269 & 7126 & 500 \\ \underline{2040} & \underline{200} & \underline{5009} & \underline{400} \end{array}$$

$$\begin{array}{rrrr} 400 & 500 & 5001 & 6020 \\ \underline{193} & \underline{309} & \underline{1478} & \underline{4950} \end{array}$$

$$\begin{array}{rrrr} 6020 & 7740 & 5679 & 1963 \\ \underline{1090} & \underline{5090} & \underline{5600} & \underline{\quad 4} \end{array}$$

$$\begin{array}{rrrr} 8005 & 9030 & 7050 & 8130 \\ \underline{3889} & \underline{4970} & \underline{5080} & \underline{7060} \end{array}$$

Lesson 25

What is the correct answer?

Only one of the four answers beside each of these questions is correct. Find the correct answer and write it in your exercise book.

How many pennies are in 1/-? 9, 12, 18, 6.
12 is the right answer to this question.

Question	*Answer*
1. How many halfpennies could I get for 5 d.?	8, 10, 5, 20.
2. What is "Two dozen" another name for?	36, 20, 24, 18.
3. How many halfcrowns are in £ 1 ?	2, 12, 10, 8.
4. What does the mark ÷ mean?	Multiply, Add, Subtract, Divide.
5. How many inches are in 1 yard?	12, 24, 36, 3.
6. What is the sum of one halfcrown and one sixpence?	2/6, 4/-, 5/-, 3/-.
7. How many shillings are in one florin?	5, 2, 10, 20.
8. How many feet are in 2 yards?	6, 4, 24, 10.

Lesson 26

A page to climb on

Subtract and prove each answer by addition.

5940 4080	7020 6070	966 197	801 593
753 709	9010 7060	882 193	907 298
788 609	9801 2404	897 399	702 295
9230 4070	804 708	874 296	604 599
875 409	8906 5408	754 195	9050 5970
924 905	7906 4807	943 698	807 699

1. Bob was in charge of the 122 books in the class library. He gave out 43. How many books were left?
2. Mary and Jack took books home to read. Mary read 287 pages. Jack read 227 pages, and Meg said she had read 41 pages. "That is 500 in all," said Meg. Was she right?
3. Jessie's mother invited 110 people to a party in her garden. 11 were not able to come. How large was the party?
4. She made 198 little cakes for the party. How many people could get two little cakes each out of that baking?
5. They wanted 104 cups to use at the party. They found that they had only 86. How many more did they have to buy?
6. When the party was over there were only 98 cups left. How many had been broken?

Pupils' own test 22

Subtract and prove each answer by addition.

422 109	701 302	563 395	6070 4990
5530 2040	802 508	551 193	903 796
632 306	8010 4040	872 699	606 298
3930 1060	502 208	941 495	706 597
44 20	904 108	881 696	7080 4990
562 207	9030 7070	793 499	607 499
Lesson 17	Lesson 18	Lesson 20	Lesson 21

A page to race on

On this page you are to subtract.

How many can you do in three minutes?

445 108	504 305	865 497	5020 1950
5740 3060	302 103	434 297	705 498
682 204	5010 2070	575 296	806 399
3310 1090	402 204	722 596	605 399
691 408	906 708	814 299	7030 3980
574 108	4020 2080	694 498	607 498

Ask your teacher if you may go on to the next chapter.

Chapter IV Multiplication

This is Alice, another of Mary's friends.

Alice and her mother went to buy some cloth for the new curtains.

Mother said each curtain needed 79 inches.

Alice wondered how many inches they would need for two curtains.

Can you tell?

Have you ever played at selling cloth?

You need to be able to multiply and divide sums with money as well as with yards, feet and inches.

Lesson 27

Proving multiplications

You can prove multiplications by multiplying the bottom line by the top one. Try these.

5	10	1	12	5	11	3	10
10	5	12	1	11	5	10	3
2	12	6	10	12	10	12	5
12	2	10	6	10	12	5	12
4	10	0	12	7	10	4	12
10	4	12	0	10	7	12	4
11	10	9	10	3	12	8	10
10	11	10	9	12	3	10	8

5	11	7	1	10	5	4
12	10	10	12	10	10	10
8	12	4	9	3	6	2
10	10	12	10	12	10	12

Lesson 28

Multiplications

Here are more multiplications in pairs :

12	6	12	10	12	7	12	9
6	12	10	12	7	12	9	12
12	12	12	8	12	5	12	11
12	12	8	12	5	12	11	12

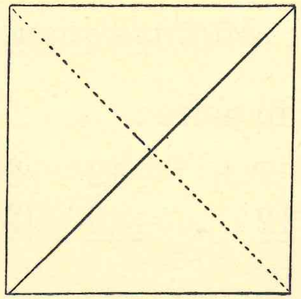
Now try these and prove each answer :

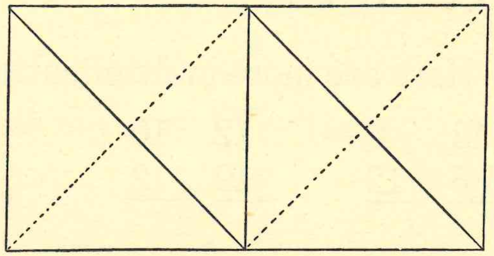
10	12	9	7	8	11	6
12	12	12	12	12	12	12
9	7	11	8	6	10	12
12	12	12	12	12	12	12

What are the numbers for these words?
Nine dozen, seven dozen, ten dozen, eight dozen.
Five dozen, eleven dozen, six dozen, one dozen.

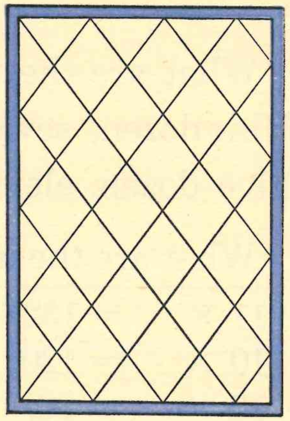
What are the missing factors?

11 × = 132.   × 12 = 96.   7 × = 84.
10 × = 120.   × 12 = 108.   6 × = 72.
12 × = 96.   × 12 = 60.   12 × = 84.





1. How many large triangles can you find in the square?
2. How many small triangles are there in the square?
3. How many small triangles can you count in the oblong?
4. How many large triangles has the oblong?
5. Copy the two drawings and make a design by shading or colouring the triangles.
6. Here is a window with little panes of glass. How many triangular panes can you see?
7. Copy the window and shade the triangles.



Lesson 29

Multiplication again

$$\begin{array}{rrcrrcrrcrr} 11 & 10 & & 11 & 9 & & 11 & 12 & & 11 & 8 \\ \underline{10} & \underline{11} & & \underline{9} & \underline{11} & & \underline{12} & \underline{11} & & \underline{8} & \underline{11} \end{array}$$

$$\begin{array}{rrcrrcrrcrr} 11 & 11 & & 11 & 7 & & 10 & 11 & & 11 & 6 \\ \underline{11} & \underline{11} & & \underline{7} & \underline{11} & & \underline{11} & \underline{10} & & \underline{6} & \underline{11} \end{array}$$

Try these and prove each answer :

$$\begin{array}{rrrrrrr} 8 & 10 & 12 & 7 & 6 & 11 & 10 \\ \underline{11} & \underline{11} & \underline{11} & \underline{11} & \underline{11} & \underline{11} & \underline{11} \end{array}$$

$$\begin{array}{rrrrrrr} 12 & 9 & 5 & 11 & 4 & 12 & 9 \\ \underline{11} & \underline{11} & \underline{11} & \underline{11} & \underline{11} & \underline{11} & \underline{11} \end{array}$$

What are the missing products ?

8 × 11 = . 12 × 11 = . 11 × 11 = .
9 × 11 = . 7 × 11 = . 10 × 11 = .

What are the missing factors?

11 × = 121. 11 × = 99. 11 × = 77.
× 11 = 88. × 11 = 132. × 11 = 110.
× 11 = 66. 11 × = 110. 12 × = 132.

Write down any two factors for these numbers :

132, 110, 121, 99, 64, 88, 77, 54.

Lesson 30 *Two new words*

Here is a new word. In multiplication the number we multiply by is called the *multiplier*.

58	22	19	9	14
2	3	5	4	6

2, 3, 5, 4 and 6 are the *multipliers*.

Here is another new word. When we divide, the number we divide by is called the *divisor*.

$3\,\overline{)\,12}$ $5\,\overline{)\,40}$ $6\,\overline{)\,54}$ $7\,\overline{)\,21}$ $8\,\overline{)\,64}$

3, 5, 6, 7 and 8 are the *divisors*.

1. What is 7 multiplied by 8 ?
2. How many 7's are in 49 ?
3. What is one-seventh of 63 ?
4. What is 8 times 9 ?
5. $81 \div 9 =$. $95 + 7 =$. $56 - 48 =$.
6. What is 6 plus 49 ?
7. How much is 88 greater than 79 ?
8. Subtract 847 from 947.

Turn back to page 56 and see how many subtractions you can do to-day in three minutes.

Lesson 31 *Can you find the answers?*

These problems are about collecting stamps.

1. Bob was collecting stamps. Each page of his album held 42 stamps. He had filled eight pages. How many stamps had he in all?
2. Each page of Jack's album held 42 stamps. He had 7 pages full. How many had he?
3. How many stamps had Bob and Jack together?
4. How many more stamps had Bob than Jack?
5. Bob was trying to make his collection up to 400 stamps. How many more did he need?
6. Jack's uncle gave him enough stamps to fill another half-page. How many was that?

(Question 2 tells how many were on a page.)

7. $32 + 2 =$. $44 + 4 =$. $35 + 3 =$.
8. $22 + 7 =$. $63 + 3 =$. $54 + 5 =$.
9. $66 + 2 =$. $27 + 2 =$. $64 + 3 =$.
10. $63 + 6 =$. $24 + 2 =$. $35 + 2 =$.

Lesson 32

Multiplication

$$\begin{array}{r}216\\ 6\\ \hline 1296\end{array}$$

Units Think 36. Write 6. Remember 3 tens.

Tens Think 6. Add 3. Write 9.

Hundreds Think 12. Write 12.

$\begin{array}{r}512\\ 6\\ \hline 3072\end{array}$	$\begin{array}{r}53\\ 4\\ \hline 212\end{array}$	$\begin{array}{r}428\\ 3\\ \hline 1284\end{array}$	$\begin{array}{r}512\\ 8\\ \hline\end{array}$
$\begin{array}{r}95\\ 2\\ \hline\end{array}$	$\begin{array}{r}48\\ 5\\ \hline\end{array}$	$\begin{array}{r}416\\ 4\\ \hline\end{array}$	$\begin{array}{r}49\\ 8\\ \hline\end{array}$
$\begin{array}{r}913\\ 7\\ \hline\end{array}$	$\begin{array}{r}29\\ 6\\ \hline\end{array}$	$\begin{array}{r}36\\ 5\\ \hline\end{array}$	$\begin{array}{r}546\\ 2\\ \hline\end{array}$
$\begin{array}{r}47\\ 3\\ \hline\end{array}$	$\begin{array}{r}86\\ 2\\ \hline\end{array}$	$\begin{array}{r}915\\ 6\\ \hline\end{array}$	$\begin{array}{r}63\\ 7\\ \hline\end{array}$
$\begin{array}{r}54\\ 5\\ \hline\end{array}$	$\begin{array}{r}43\\ 8\\ \hline\end{array}$	$\begin{array}{r}312\\ 7\\ \hline\end{array}$	$\begin{array}{r}813\\ 6\\ \hline\end{array}$

Lesson 33

More multiplications

$\begin{array}{r}181\\ 3\\ \hline 543\end{array}$	$\begin{array}{r}270\\ 6\\ \hline 1620\end{array}$	$\begin{array}{r}261\\ 2\\ \hline 522\end{array}$	$\begin{array}{r}621\\ 5\\ \hline\end{array}$
$\begin{array}{r}631\\ 7\\ \hline\end{array}$	$\begin{array}{r}2143\\ 3\\ \hline\end{array}$	$\begin{array}{r}141\\ 5\\ \hline\end{array}$	$\begin{array}{r}451\\ 6\\ \hline\end{array}$
$\begin{array}{r}950\\ 8\\ \hline\end{array}$	$\begin{array}{r}161\\ 4\\ \hline\end{array}$	$\begin{array}{r}782\\ 2\\ \hline\end{array}$	$\begin{array}{r}850\\ 4\\ \hline\end{array}$
$\begin{array}{r}820\\ 5\\ \hline\end{array}$	$\begin{array}{r}861\\ 2\\ \hline\end{array}$	$\begin{array}{r}760\\ 6\\ \hline\end{array}$	$\begin{array}{r}1182\\ 3\\ \hline\end{array}$
$\begin{array}{r}590\\ 6\\ \hline\end{array}$	$\begin{array}{r}390\\ 7\\ \hline\end{array}$	$\begin{array}{r}131\\ 4\\ \hline\end{array}$	$\begin{array}{r}840\\ 5\\ \hline\end{array}$
$\begin{array}{r}741\\ 6\\ \hline\end{array}$	$\begin{array}{r}840\\ 8\\ \hline\end{array}$	$\begin{array}{r}250\\ 7\\ \hline\end{array}$	$\begin{array}{r}520\\ 6\\ \hline\end{array}$

Playing " How many? "

Jean's class is playing at " *How many?* "

It is Alice's turn to be " It ".

She asks questions like these :

Tell me how many halfpennies I could get for 11 pennies?

How many pounds are equal to 16 halfcrowns?

How many florins could I get for £10?

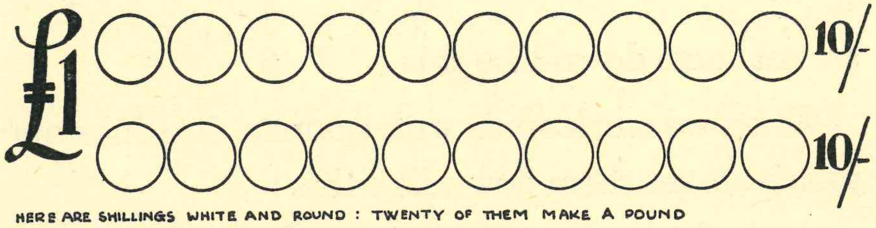
Alice writes the answer on the blackboard and the rest of the class write it in their books.

When one of the class gets the right answer to two questions before Alice gets it, she loses her place, and the other pupil becomes " It ".

Think out questions you would ask if you were " It ", and play this game with your friends.

Lesson 34 *Money*

You know that there are 20 shillings in £1.


£1
10/-
10/-
HERE ARE SHILLINGS WHITE AND ROUND : TWENTY OF THEM MAKE A POUND

How many shillings are there in £3?

This question is just like asking :

" What is 3 times 20/- " ? The answer is 60/-.

Some of these multiplications have the 20 on the bottom instead of the top line, but your answers for each pair should be the same.

$$\begin{array}{r}20\\ \underline{2}\end{array}\quad\begin{array}{r}2\\ \underline{20}\end{array}\qquad\begin{array}{r}20\\ \underline{3}\end{array}\quad\begin{array}{r}3\\ \underline{20}\end{array}\qquad\begin{array}{r}20\\ \underline{4}\end{array}\quad\begin{array}{r}4\\ \underline{20}\end{array}\qquad\begin{array}{r}20\\ \underline{5}\end{array}\quad\begin{array}{r}5\\ \underline{20}\end{array}$$

If you need them, use your coins in answering the following :

1. 40 shillings are equal to £ .
2. 100 shillings make £ .
3. 80/- = £ .
4. £2 could be changed into shillings.
5. For £4 I could get shillings.

Lesson 35

Money again

When we work sums with shillings and pence we set them down like this:

s.	d.
3	6

When we work sums with pounds, shillings and pence we set them down like this:

£	s.	d.
2	6	8½

£	s.	d.
3	14	9¾

Copy these and show your paper to your teacher to see if you have done it correctly.

We can do different kinds of sums with pounds, shillings and pence, just as we do them with shillings and pence.

See if you can do this page and the next page.

Find the sum of:

£	s.	d.
3	4	5
6	3	5½

£	s.	d.
9	4	5
	7	3

£	s.	d.
6	8	2¾
2	8	4

£	s.	d.
6	2	6
	6	0

£	s.	d.
2	7	2
9	1	7¼

£	s.	d.
	8	4
8	2	6

Find the difference between:

£	s.	d.
8	6	7
5	4	2

£	s.	d.
9	6	3¾
3	6	2

£	s.	d.
8	7	4
7	4	3

£	s.	d.
5	4	3
4	2	3

£	s.	d.
8	9	7¼
	2	6

£	s.	d.
9	7	6½
8	5	5

Find the products or quotients:

£	s.	d.
3	4	2
		4

£	s.	d.
2	3	1
		6

£	s.	d.
4	5	3
		3

£	s.	d.
3	2	1
		7

£	s.	d.
7	9	1
		2

£	s.	d.
4	3	2
		5

	£	s.	d.
2)	18	16	10

	£	s.	d.
4)	20	12	8

	£	s.	d.
3)	21	18	6

	£	s.	d.
7)	14	14	7

	£	s.	d.
6)	24	12	6

	£	s.	d.
9)	27	18	9

Lesson 36 *Words and numbers*

You know how to write numbers for thousands, as well as for hundreds, tens and units.

Write the numbers for the following words, remembering to mark the thousands by a comma.

1. Five thousand.
2. Five thousand, five hundred.
3. Five thousand, five hundred and five.
4. Five thousand, five hundred and fifty.

We write tens of thousands in the same way. Sixteen thousand is written : 16,000. Twenty-one thousand is written : 21,000.

Now write these numbers :

5. Eighty-eight thousand.
6. Eighteen thousand.
7. Eighty-one thousand.
8. Forty-nine thousand, four hundred and nineteen.
9. Nineteen thousand, one hundred and nine.
10. Fifty-five thousand, and forty-five.
11. Add : 606 ; 7 ; 4,302; 25,022 ; 41.

Lesson 37 *Multiplication*

$$\begin{array}{r}280\\ 3\\ \hline 840\end{array}\qquad\begin{array}{r}1700\\ 5\\ \hline 8500\end{array}\qquad\begin{array}{r}214\\ 7\\ \hline 1498\end{array}\qquad\begin{array}{r}631\\ 6\\ \hline \end{array}$$

$$\begin{array}{r}1201\\ 8\\ \hline \end{array}\qquad\begin{array}{r}1722\\ 4\\ \hline \end{array}\qquad\begin{array}{r}120\\ 8\\ \hline \end{array}\qquad\begin{array}{r}39\\ 5\\ \hline \end{array}$$

$$\begin{array}{r}1160\\ 6\\ \hline \end{array}\qquad\begin{array}{r}612\\ 8\\ \hline \end{array}\qquad\begin{array}{r}6801\\ 7\\ \hline \end{array}\qquad\begin{array}{r}1400\\ 6\\ \hline \end{array}$$

$$\begin{array}{r}131\\ 7\\ \hline \end{array}\qquad\begin{array}{r}1410\\ 6\\ \hline \end{array}\qquad\begin{array}{r}1602\\ 4\\ \hline \end{array}\qquad\begin{array}{r}1120\\ 7\\ \hline \end{array}$$

$$\begin{array}{r}715\\ 6\\ \hline \end{array}\qquad\begin{array}{r}753\\ 3\\ \hline \end{array}\qquad\begin{array}{r}670\\ 7\\ \hline \end{array}\qquad\begin{array}{r}1900\\ 5\\ \hline \end{array}$$

$$\begin{array}{r}494\\ 2\\ \hline \end{array}\qquad\begin{array}{r}421\\ 6\\ \hline \end{array}\qquad\begin{array}{r}1210\\ 8\\ \hline \end{array}\qquad\begin{array}{r}1311\\ 7\\ \hline \end{array}$$

Lesson 38 *Multiplication again*

Be very careful on this page.

208 5 1040	7005 7 49035	403 8 3224	5007 6
904 7	703 8	405 4	3006 9
809 6	4007 9	603 5	8009 7
402 5	508 8	9008 6	802 9
5009 7	706 6	905 9	6009 8
804 6	904 8	406 7	8004 9

Lesson 39 *Hidden questions*

1. Mary bought 2 oranges at 2 d. each. What change did she get back out of 6 d.?
2. There are 50 girls in our class. Miss Smith says she has not enough crayons for us all. She has 4 boxes with 12 crayons in each box. How many more does she need?

3. George has a pack of cards. He divided them into four piles with 13 cards in each pile. How many cards must have been in the pack?
4. We have two blackboards in our room. One is 3 ft. 8 in. and the other is 60 in. wide. How much wider is one than the other?
5. $\frac{1}{8}$ of our class were absent with measles. There were 48 on the roll. How many do you think were present?

6. $6 + 8 =$. $16 + 8 =$. $56 + 8 =$.
7. $14 + 9 =$. $24 + 9 =$. $64 + 9 =$.
8. $6 + 9 =$. $16 + 9 =$. $56 + 9 =$.

Lesson 40

Something new

Work right down the column.

Add to each product the number you see at the top, like this:

Add 4 to			
3 × 6	Think 18.	Add 4.	Write 22.
4 × 7	Think 28.	Add 4.	Write 32.
8 × 6	Think 48.	Add 4.	Write 52.

Add 4 to	Add 2 to	Add 5 to	Add 3 to
6 × 8	6 × 3	2 × 8	4 × 7
1 × 8	7 × 4	7 × 8	8 × 6
1 × 9	6 × 8	6 × 6	7 × 4
7 × 7	2 × 9	7 × 7	3 × 6
2 × 8	3 × 3	1 × 9	2 × 9
6 × 6	7 × 7	5 × 7	7 × 7
8 × 7	1 × 9	5 × 9	1 × 9
4 × 9	1 × 8	3 × 9	2 × 4
7 × 8	4 × 7	1 × 7	6 × 8
1 × 6	8 × 6	4 × 7	1 × 8
1 × 7	2 × 4	8 × 6	3 × 9
3 × 9	3 × 6	2 × 9	1 × 7

Lesson 41

Length

You know that ft. stands for feet, and that in. stands for inches. The short way of writing yards is yds. Do not forget the dot after yds.

We can work sums with yards, feet and inches just as we can with money.

Add:

yds.	ft.	in.
8	0	3
1	1	2
9	0	6

yds.	ft.	in.
6	1	4
3	0	1
7	0	5

yds.	ft.	in.
4	0	7
4	0	2
5	0	1

yds.	ft.	in.
7	0	2
1	0	2
6	1	5

yds.	ft.	in.
5	0	4
2	1	1
6	1	2

yds.	ft.	in.
5	0	5
3	0	1
9	1	0

Subtract:

yds.	ft.	in.
9	2	7
6	1	4

yds.	ft.	in.
11	0	9
3	0	9

yds.	ft.	in.
10	1	8
6	1	3

Multiply:

yds.	ft.	in.	yds.	ft.	in.	yds.	ft.	in.
7	1	3	5	0	2	9	0	5
		2			4			2

yds.	ft.	in.	yds.	ft.	in.	yds.	ft.	in.
6	0	1	8	1	4	3	0	1
		3			2			6

yds.	ft.	in.	yds.	ft.	in.	yds.	ft.	in.
5	1	2	7	0	3	4	0	2
		2			3			5

Divide:

	yds.	ft.	in.		yds.	ft.	in.		yds.	ft.	in.
2)	16	2	10	6)	18	0	6	9)	18	0	0
5)	15	0	5	3)	21	0	9	7)	14	0	0
4)	16	0	8	8)	16	0	0	9)	9	0	9

Lesson 42

Multiplication

7081	6030	8190	1205
2	7	5	8
14162	42210	40950	

5090	8172	4020	1806
9	3	9	5

5120	2315	2080	9031
8	4	6	7

1314	9060	3152	1402
5	7	4	6

7150	8090	1508	9050
6	9	3	8

8209	3080	2070	5150
8	7	9	6

Lesson 43 *Riddles*

6 × 3 is less than, equal to, more than 2 × 9. The answer is "equal to" because 6 × 3 = 18, and 2 × 9 = 18. That is the way to play this game. Write the answer and then give the proof.

1. 4×4 is less than, equal to, more than 3×5.
2. 12÷6 is less than, equal to, more than 11−9.
3. 2+0 is less than, equal to, more than 21÷7.
4. 17−9 is less than, equal to, more than 2+2.

5. 4−4 is less than, equal to, more than 56÷8.
6. 3×3 is less than, equal to, more than 11−8.
7. 3+3 is less than, equal to, more than 2+7.
8. 45÷9 is less than, equal to, more than 2×8.
9. 9×6 is less than, equal to, more than 5+3.
10. 12−8 is less than, equal to, more than 36÷9.
11. 6+2 is less than, equal to, more than 7×4.

12. 30÷6 is less than, equal to, more than 10−5.
13. 54÷9 is less than, equal to, more than 12−3.
14. 16−8 is less than, equal to, more than 64÷8.
15. 8×8 is less than, equal to, more than 8+8.
16. 1+1 is less than, equal to, more than 2×1.

Lesson 44 *More multiplications*

$\begin{array}{r}1491\\ 6\\ \hline 8946\end{array}$	$\begin{array}{r}574\\ 5\\ \hline 2870\end{array}$	$\begin{array}{r}6570\\ 7\\ \hline 45990\end{array}$	$\begin{array}{r}1471\\ 4\\ \hline\end{array}$
$\begin{array}{r}977\\ 9\\ \hline\end{array}$	$\begin{array}{r}735\\ 8\\ \hline\end{array}$	$\begin{array}{r}123\\ 6\\ \hline\end{array}$	$\begin{array}{r}382\\ 7\\ \hline\end{array}$
$\begin{array}{r}8541\\ 7\\ \hline\end{array}$	$\begin{array}{r}6730\\ 9\\ \hline\end{array}$	$\begin{array}{r}298\\ 3\\ \hline\end{array}$	$\begin{array}{r}4860\\ 8\\ \hline\end{array}$
$\begin{array}{r}4760\\ 6\\ \hline\end{array}$	$\begin{array}{r}358\\ 4\\ \hline\end{array}$	$\begin{array}{r}124\\ 8\\ \hline\end{array}$	$\begin{array}{r}127\\ 7\\ \hline\end{array}$
$\begin{array}{r}3290\\ 5\\ \hline\end{array}$	$\begin{array}{r}982\\ 9\\ \hline\end{array}$	$\begin{array}{r}148\\ 6\\ \hline\end{array}$	$\begin{array}{r}3591\\ 8\\ \hline\end{array}$
$\begin{array}{r}487\\ 8\\ \hline\end{array}$	$\begin{array}{r}1390\\ 7\\ \hline\end{array}$	$\begin{array}{r}9861\\ 9\\ \hline\end{array}$	$\begin{array}{r}5791\\ 6\\ \hline\end{array}$

Lesson 45

A missing number game

36 + 8 = .
9 + 1 = .
36 + 6 = .
24 + 8 = .

28 + 7 = .
72 + 9 = .
63 + 7 = .
64 + 6 = .

24 + 7 = .
28 + 3 = .
35 + 5 = .
32 + 8 = .

24 + 6 = .
88 + 3 = .
49 + 2 = .
45 + 7 = .

27 + 6 = .
48 + 4 = .

54 + 9 = .
72 + 8 = .
49 + 1 = .
56 + 7 = .

36 + 9 = .
64 + 7 = .
54 + 7 = .
25 + 6 = .

66 + 6 = .
27 + 7 = .
54 + 8 = .
18 + 7 = .

42 + 9 = .
77 + 7 = .
28 + 4 = .
54 + 6 = .

16 + 7 = .
28 + 6 = .

45 + 6 = .
66 + 7 = .
6 + 9 = .
28 + 8 = .

8 + 4 = .
45 + 5 = .
15 + 9 = .
56 + 9 = .

42 + 8 = .
77 + 9 = .
44 + 7 = .
63 + 8 = .

36 + 7 = .
48 + 3 = .
48 + 6 = .
64 + 8 = .

32 + 9 = .
77 + 6 = .

Lesson 46

You know how to do this

Add 6 to	Add 4 to	Add 5 to	Add 8 to
5 × 7	7 × 8	2 × 8	5 × 9
3 × 9	3 × 9	1 × 8	8 × 9
7 × 7	8 × 7	8 × 7	1 × 9
2 × 9	1 × 9	2 × 9	6 × 9
8 × 7	8 × 6	6 × 6	3 × 9
1 × 7	6 × 6	1 × 9	7 × 9
2 × 8	1 × 7	8 × 6	2 × 9
6 × 9	2 × 8	4 × 9	4 × 9

Add 6 to	Add 4 to	Add 5 to	Add 7 to
4 × 7	2 × 9	7 × 8	8 × 8
8 × 8	1 × 6	4 × 7	6 × 9
1 × 9	4 × 9	7 × 7	2 × 8
3 × 8	1 × 8	5 × 9	5 × 9
5 × 9	7 × 4	3 × 9	7 × 8
4 × 9	9 × 3	1 × 6	1 × 9
6 × 4	7 × 8	9 × 5	7 × 9
5 × 3	4 × 7	6 × 3	6 × 8

Lesson 47

More missing numbers

$(1\times9)+7=16.$
$(3\times9)+3=$.
$(8\times7)+6=$.
$(6\times8)+2=$.

$(5\times7)+6=$.
$(6\times8)+7=$.
$(7\times8)+4=$.
$(2\times9)+2=$.

$(8\times6)+3=$.
$(3\times9)+8=$.
$(6\times9)+7=$.
$(4\times7)+3=$.

$(3\times8)+7=$.
$(7\times9)+7=$.
$(1\times9)+8=$.
$(3\times6)+5=$.

$(2\times9)+7=$.
$(1\times7)+3=$.

$(6\times9)+8=$.
$(1\times8)+7=$.
$(7\times7)+1=$.
$(3\times6)+2=$.

$(6\times8)+3=$.
$(3\times9)+7=$.
$(4\times7)+3=$.
$(7\times7)+3=$.

$(1\times9)+1=$.
$(4\times7)+2=$.
$(5\times9)+7=$.
$(7\times9)+8=$.

$(7\times8)+7=$.
$(3\times3)+2=$.
$(7\times7)+6=$.
$(3\times9)+6=$.

$(8\times7)+5=$.
$(3\times6)+3=$.

$(1\times7)+6=$.
$(8\times8)+7=$.
$(4\times9)+8=$.
$(4\times9)+6=$.

$(8\times6)+2=$.
$(7\times7)+2=$.
$(2\times9)+6=$.
$(2\times8)+6=$.

$(7\times4)+2=$.
$(1\times9)+6=$.
$(2\times8)+7=$.
$(2\times7)+6=$.

$(1\times9)+2=$.
$(3\times8)+6=$.
$(4\times9)+7=$.
$(6\times8)+6=$.

$(6\times3)+2=$.
$(1\times9)+3=$.

Lesson 48

Multiplication

$\begin{array}{r}118\\ \underline{6}\\ 708\end{array}$	$\begin{array}{r}141\\ \underline{8}\\ 1128\end{array}$	$\begin{array}{r}245\\ \underline{7}\\ 1715\end{array}$	$\begin{array}{r}451\\ \underline{9}\end{array}$
$\begin{array}{r}435\\ \underline{9}\end{array}$	$\begin{array}{r}141\\ \underline{7}\end{array}$	$\begin{array}{r}6900\\ \underline{8}\end{array}$	$\begin{array}{r}1907\\ \underline{6}\end{array}$
$\begin{array}{r}179\\ \underline{4}\end{array}$	$\begin{array}{r}138\\ \underline{6}\end{array}$	$\begin{array}{r}1290\\ \underline{7}\end{array}$	$\begin{array}{r}575\\ \underline{8}\end{array}$
$\begin{array}{r}1171\\ \underline{8}\end{array}$	$\begin{array}{r}326\\ \underline{9}\end{array}$	$\begin{array}{r}287\\ \underline{6}\end{array}$	$\begin{array}{r}7802\\ \underline{7}\end{array}$
$\begin{array}{r}1370\\ \underline{6}\end{array}$	$\begin{array}{r}376\\ \underline{7}\end{array}$	$\begin{array}{r}7808\\ \underline{8}\end{array}$	$\begin{array}{r}1801\\ \underline{9}\end{array}$
$\begin{array}{r}5906\\ \underline{7}\end{array}$	$\begin{array}{r}976\\ \underline{8}\end{array}$	$\begin{array}{r}271\\ \underline{9}\end{array}$	$\begin{array}{r}468\\ \underline{6}\end{array}$

Lesson 49

Multiplication again

4368 3 13104	1123 9 10107	2779 4 11116	2134 9
1869 6	5278 4	5739 7	3138 8
4235 9	8586 7	3837 6	5743 7
5389 8	1972 7	5685 6	7689 9
3377 8	4369 6	5263 8	8567 9
7625 8	3586 7	9248 9	4639 8

Lesson 50

Yes, No, puzzles

1. We wanted paper hats for the school party. Would 4 dozen be enough for 50 girls?

Yes, No.

2. Tom was sent for two pounds of ham at 1/3 per pound. His mother gave him a halfcrown. Was that enough to pay for the ham?

Yes, No.

3. A loaf of bread cost 3½ d. Mary bought two. Would she get any change out of 7 d.?

Yes, No.

4. When the teacher took out the new story books she found there were twenty-three of them. Was that enough for her to give one each to two dozen pupils?

Yes, No.

5. Chocolate cost 1/- per pound. I had 4 d. Had I enough to buy ¼ pound?

Yes, No.

Lesson 51

A page to climb on

Multiply :

241 3	3002 9	286 5	643 7
612 6	304 5	257 7	3651 8
1712 4	607 8	1280 6	4608 9
151 5	9008 7	2431 8	179 4
614 7	3009 6	1962 4	269 6
1601 6	7009 4	997 9	261 8
Lesson 37	Lesson 38	Lesson 44	Lesson 48

On the next page is a test for you.

Pupils' own test 23

Multiply :

704 9	538 5	7806 4	9337 6
903 4	1872 4	5340 6	4778 9
405 7	1582 3	9631 8	7144 7
704 5	854 9	815 7	5764 8
402 6	124 7	6500 8	2884 6
803 8	584 8	867 9	8770 7
Lesson 38	Lesson 44	Lesson 48	Lesson 49

A page to race on

On this page you are to multiply.

How many can you do in three minutes?

807 4	1270 5	5360 9	5126 8
3004 9	249 3	278 7	4889 8
209 6	359 4	6709 8	6790 9
507 5	6531 7	7900 4	2368 6
7006 7	578 6	7241 9	3445 7
509 8	7631 9	1088 6	5572 7

Ask your teacher if you may go on to the next chapter.

Chapter V Division

Susan has five tennis balls.

If she loses two this week and two next week, how many will she have left?

This chapter will help you to find out the answer very quickly.

Then you will be able to find the answer to questions like these :

I have fifteen cards to share among three of us.

How many shall we each get?

And how many will be left?

Lesson 52 *Words telling us to divide*

In writing the answers on this page you can turn back to pages 58, 59 and 61 if you need to.

1. 120 ÷ 12 = . 90 ÷ 10 = .
2. Find the quotient when 121 is divided by 11.
3. How many 12's are in 96 ?
4. Find the quotient when 100 is divided by 10.
5. 132 divided by 11 is equal to .
6. How many 12's are in 72 ?
7. Work the next line of divisions :

12) 132 10) 80 11) 77 11) 121 12) 84

8. Write out the divisors in the divisions you have just done.
9. Work this line of divisions :

10) 70 12) 144 11) 88 10) 120 12) 60

10. How many 11's are there in 110 ?
11. Write the quotient when 120 is divided by 10.
12. 108 ÷ 12 = . 99 ÷ 11 = .
13. How many 10's are in 110?
14. 36 ÷ 12 = 24 ÷ 12 = .

Lesson 53 *Proofs for multiplications*

Write down answers to the following :

3 × 4 = . 4 × 3 = . 9 × 6 = .
12 ÷ 3 = . 12 ÷ 4 = . 54 ÷ 9 = .

Multiply :	6	2	7	5	3
	9	7	2	3	5

Divide : 6) 54 2) 14 7) 14 5) 15 3) 15

Now look at your answers. What is interesting about them? You can see that when we divide the answer of a multiplication by its top line we get the same number as the multiplier.

Multiply these :

9	4	9	7	4
2	9	1	7	7

Divide these :

9) 18 4) 36 9) 9 7) 49 4) 28

This proof for multiplication is very useful because you can find out if your work is right without looking up the answers.

Now do Lesson 27 on page 58 over again and prove each answer by division.

Lesson 54 *Missing numbers*

We read the first one: "2 times 2 and how many more make 5?" Find the number that should go in each empty place.

$(2\times2)+\quad=5.$	$(2\times2)+\quad=4.$	$(2\times3)+\quad=7.$
$(2\times4)+\quad=8.$	$(2\times4)+\quad=9.$	$(2\times5)+\quad=11.$
$(5\times3)+\quad=17.$	$(5\times3)+\quad=18.$	$(5\times3)+\quad=19.$
$(4\times1)+\quad=4.$	$(4\times1)+\quad=5.$	$(4\times1)+\quad=6.$

$(5\times6)+\quad=32.$	$(5\times6)+\quad=33.$	$(5\times6)+\quad=34.$
$(5\times1)+\quad=6.$	$(5\times1)+\quad=7.$	$(5\times1)+\quad=8.$
$(6\times3)+\quad=23.$	$(6\times4)+\quad=26.$	$(6\times4)+\quad=28.$
$(4\times2)+\quad=9.$	$(4\times2)+\quad=10.$	$(4\times2)+\quad=11.$

$(7\times2)+\quad=14.$	$(7\times2)+\quad=15.$	$(7\times2)+\quad=17.$
$(7\times2)+\quad=20.$	$(7\times3)+\quad=23.$	$(7\times3)+\quad=24.$
$(7\times6)+\quad=42.$	$(7\times6)+\quad=43.$	$(7\times6)+\quad=44.$
$(8\times1)+\quad=8.$	$(8\times1)+\quad=9.$	$(8\times1)+\quad=11.$

$(8\times1)+\quad=14.$	$(8\times2)+\quad=16.$	$(8\times2)+\quad=21.$
$(8\times2)+\quad=23.$	$(8\times5)+\quad=40.$	$(8\times5)+\quad=41.$
$(6\times2)+\quad=13.$	$(6\times2)+\quad=14.$	$(6\times2)+\quad=15.$
$(6\times7)+\quad=42.$	$(6\times7)+\quad=43.$	$(6\times7)+\quad=45.$

Lesson 55 *Remainders*

Mother had 7 chocolates.

She wanted to give the same number to Mary, Meg and Jack.

She asked herself: "How many 3's are in 7?"

The answer was 2 and 1 left over.

So she gave two chocolates each to Mary, Meg, and Jack, and left the last one in the box.

If you are not quite sure, make drawings to help you to answer these questions:

1. Tom had 14 marbles. How many could he give to each of 3 boys? How many would be left?
2. The teacher asked 11 girls to walk in two's, each with a partner. How many two's would there be? How many would be left with no partner?
3. Jean had 10 roses. She wished to put the same number in each of 3 glasses. How many would be left?

Lesson 56 *Remainders again*

1. How many 3's are in 25 ? And how many over?

2. How many 3's are in 26 ? And how many over?

3. How many 5's are in 12 ? And how many over?

Another word for " left over " is *remainder.* Instead of writing it out every time, we put just the first letter with a dot after it :

$$\begin{array}{r} 5\,\underline{)\,11} \\ 2,\ \text{R.} = 1 \end{array}$$

If you look carefully at these divisions you will see how to do them. R. shows what is left over. We call it the *remainder.*

3) 9 3	3) 10 3 R.=1	3) 12 4	3) 13 4 R.=1	3) 14 4 R.=2
3) 15	3) 16	3) 17	3) 18	3) 19
3) 6	3) 8	3) 21	3) 22	3) 23

More divisions

Write out each of the following divisions and find its answer :

1. Divide these numbers by 4 :

16, 17, 18, 19, 24, 25, 26, 27, 28, 29.

2. Divide these numbers by 5 :

19, 20, 22, 24, 30, 31, 32, 33, 45, 46.

3. Divide these numbers by 6 :

18, 19, 24, 26, 28, 29, 42, 43, 45, 47.

4. Divide these numbers by 7 :

21, 23, 24, 26, 42, 43, 44, 46, 47, 48.

5. Find the quotient and remainder when the following are divided by 8 :

16, 18, 21, 22, 23, 40, 41, 43, 44.

6. Find the quotient and remainder when the following are divided by 9 :

27, 28, 30, 37, 39, 45, 47, 48, 49.

7. Find x or the missing number :

$(9\times3)+x=28.$ $(9\times3)+\quad=30.$ $(9\times3)+x=31.$
$(6\times2)+x=12.$ $(6\times2)+\quad=16.$ $(6\times2)+x=17.$
$(9\times5)+x=45.$ $(9\times5)+\quad=47.$ $(9\times5)+x=52.$
$(3\times1)+x=3.$ $(3\times1)+\quad=4.$ $(3\times1)+x=5.$

Lesson 57

Addition of money

You know how to add shillings and pence.

On this page you are to add pounds as well.

£	s.	d.
9	7	7
2	8	7

£	s.	d.
7	6	9½
2	3	6¾

£	s.	d.
6	6	8
5	6	4

£	s.	d.
7	7	9¼
1	9	1¾

£	s.	d.
8	5	9
3	8	9

£	s.	d.
7	5	8
8	6	9

£	s.	d.
	4	3½
9	4	3
	8	4½

£	s.	d.
	2	6¾
5	2	1
6	7	7¼

£	s.	d.
4	5	5
2	2	3½
4	2	7¾

£	s.	d.
5	1	0
3	3	7¾
	5	5¾

£	s.	d.
	5	8
9	3	1
5	6	1

£	s.	d.
	3	3¾
8	1	3½
	8	4

£	s.	d.
5	5	8
9	7	5

£	s.	d.
7	3	9
	6	3

£	s.	d.
4	9	6
7	4	9

Subtract on this page

£	s.	d.
9	9	7
7	4	5¾

£	s.	d.
5	7	3
5	2	9

£	s.	d.
8	6	9¼
5	3	2½

£	s.	d.
1	5	5
1	0	9

£	s.	d.
8	7	3
2	1	8

£	s.	d.
19	6	3¾
8	0	6½

£	s.	d.
13	7	4
5	4	8

£	s.	d.
19	4	8
9	3	5¼

£	s.	d.
2	8	5
2	0	7½

£	s.	d.
9	5	3½
	3	6¾

£	s.	d.
8	6	9
4	4	5

£	s.	d.
11	9	6
9	5	9

£	s.	d.
7	9	3
7	0	2½

£	s.	d.
15	8	9½
2	3	1¾

£	s.	d.
8	6	1¾
7	1	6¼

Lesson 58 *A division reading game*

1. What is one-third of sixty-six?
   This simply means : What is 66 divided by 3 ?
   The answer is twenty-two.
2. What is one sixth of twenty-four?
3. What is one half of sixty-six?
4. What is one seventh of forty-nine?
5. What is one ninth of seventy-two?
6. What is one seventh of thirty-five?
7. What is one third of two hundred and ten?
8. One eighth of seven hundred and twenty is ?
9. One fourth of one hundred and twenty is ?
10. One quarter of two hundred is ?
11. One eighth of four hundred is ?
12. One ninth of six hundred and thirty is ?
13. What is the quotient when forty-two is divided by six?
14. What is the remainder when ten is divided by five?
15. What is the divisor when eighty-three is divided by nine?

Lesson 59 *A missing number game*

29 − 28 = .
16 − 12 = .
77 − 72 = .
49 − 48 = .
28 − 25 = .
9 − 8 = .
19 − 14 = .
73 − 72 = .
22 − 21 = .
23 − 20 = .
34 − 32 = .
13 − 12 = .

26 − 24 = .
68 − 63 = .
33 − 30 = .
97 − 94 = .
11 − 10 = .
37 − 33 = .
23 − 20 = .
33 − 32 = .
45 − 42 = .
87 − 81 = .
13 − 10 = .
46 − 40 = .

58 − 54 = .
34 − 30 = .
27 − 21 = .
18 − 15 = .
32 − 30 = .
45 − 40 = .
29 − 25 = .
47 − 45 = .
47 − 42 = .
43 − 40 = .
46 − 42 = .
31 − 30 = .

17 − 14 = .
9 − 9 = .
29 − 24 = .
83 − 81 = .
42 − 40 = .
69 − 64 = .

Three thousand two hundred and fourteen minus two thousand two hundred and seven is equal to ?

Nine thousand two hundred and seventy-eight minus seventy-six is equal to ?

Lesson 60

Find x *or the missing number*

$(4\times7)+\quad=29.$
$(3\times2)+\quad=8.$
$(6\times2)+\quad=17.$
$(8\times9)+\quad=78.$

$(5\times5)+x=29.$
$(4\times1)+x=7.$
$(4\times2)+x=9.$
$(2\times9)+x=19.$

$(3\times7)+\quad=23.$
$(5\times1)+\quad=9.$
$(5\times4)+\quad=24.$
$(4\times8)+\quad=35.$

$(9\times5)+x=49.$
$(3\times2)+x=7.$
$(4\times6)+x=27.$
$(7\times9)+x=69.$

$(8\times3)+\quad=29.$
$(2\times6)+\quad=13.$
$(2\times5)+\quad=11.$
$(4\times3)+\quad=13.$

$(2\times6)+x=13.$
$(9\times3)+x=29.$
$(6\times7)+x=46.$
$(9\times9)+x=88.$

$(5\times6)+\quad=34.$
$(7\times5)+\quad=39.$
$(6\times9)+\quad=59.$
$(6\times5)+\quad=35.$

$(4\times5)+x=23.$
$(4\times8)+x=34.$
$(5\times6)+x=34.$
$(8\times5)+x=47.$

$(5\times2)+\quad=14.$
$(8\times5)+\quad=47.$
$(7\times6)+\quad=48.$
$(5\times8)+\quad=44.$

$(7\times3)+x=27.$
$(9\times6)+x=58.$
$(5\times3)+x=19.$
$(7\times2)+x=18.$

$(4\times5)+\quad=24.$
$(4\times4)+\quad=19.$
$(5\times9)+\quad=48.$
$(8\times3)+\quad=30.$

$(6\times7)+x=47.$
$(7\times5)+x=37.$
$(6\times5)+x=32.$
$(8\times5)+x=43.$

Turn to page 88. How many products can you find to-day in three minutes?

Lesson 61

Division again

Remember to write each answer in the right place.

2) 19　　7) 66　　9) 79　　6) 33　　8) 39
9, R.=1　　9, R.=3　　8, R.=7

7) 37　　6) 35　　2) 11　　4) 38　　5) 39

4) 15　　8) 67　　9) 78　　4) 22　　9) 29

6) 29　　5) 43　　3) 26　　7) 69　　8) 49

9) 87　　5) 27　　8) 36　　4) 29　　6) 58

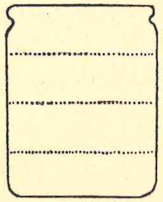
3) 29　　9) 19　　7) 29　　8) 45　　5) 44

6) 57　　8) 79　　4) 34　　7) 59　　9) 69

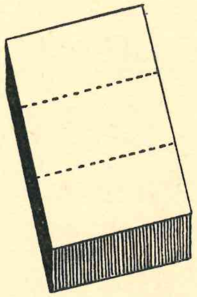
7) 24　　4) 39　　9) 85　　6) 33　　8) 37

Lesson 62

Something to do

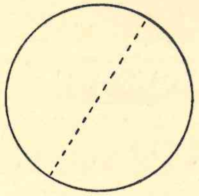


1. Here is a jar divided into 4 equal parts. Shade $\frac{1}{4}$ of it as if there were honey in it.

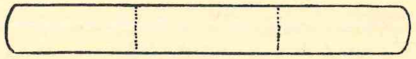


2. Here is a box. Divide it into 3 equal parts and shade one of the parts. What do we call one of these three equal parts? We call it $\frac{1}{3}$ because we have divided the box into 3 equal parts and marked one of them.

3. Here is a line. ______________________ Divide it into 4 equal parts and draw a triangle on one of them. What name do we give to one of these four equal parts?



4. Divide this circle into 2 equal parts and fill in one of these parts with dots. What name do we give to one of these two equal parts?



5. Divide this piece of chalk into 3 equal parts. What do we call one of these parts?

Lesson 63

Subtraction

52 − 45 = .
30 − 24 = .
58 − 49 = .
72 − 64 = .

26 − 18 = .
64 − 56 = .
81 − 72 = .
43 − 36 = .

30 − 28 = .
25 − 18 = .
51 − 49 = .
50 − 42 = .

102 − 99 = .
36 − 27 = .
41 − 35 = .
50 − 45 = .

54 − 49 = .
103 − 99 = .

31 − 24 = .
42 − 36 = .
64 − 55 = .
50 − 49 = .

107 − 99 = .
93 − 84 = .
20 − 11 = .
52 − 45 = .

71 − 63 = .
106 − 99 = .
43 − 35 = .
91 − 84 = .

21 − 18 = .
55 − 49 = .
34 − 28 = .
32 − 27 = .

93 − 88 = .
52 − 48 = .

41 − 35 = .
45 − 36 = .
72 − 63 = .
31 − 28 = .

85 − 77 = .
62 − 54 = .
31 − 27 = .
60 − 56 = .

61 − 55 = .
97 − 88 = .
34 − 27 = .
62 − 56 = .

20 − 14 = .
83 − 77 = .
81 − 77 = .
70 − 63 = .

71 − 66 = .
40 − 33 = .

Lesson 64 *More divisions*

7) 41   9) 26   6) 51   4) 30   3) 10

5, R.=6   2, R.=8   8, R.=3

9) 80   3) 20   7) 31   8) 31   7) 60

6) 11   6) 50   8) 54   9) 61   7) 32

8) 21   9) 71   7) 54   8) 70   9) 25

6) 41   8) 62   4) 31   6) 21   7) 52

9) 71   8) 50   7) 33   9) 35   6) 40

8) 61   7) 20   6) 22   8) 55   7) 55

9) 41   6) 52   9) 70   8) 30   6) 23

Lesson 65 *Proofs for divisions*

Write the answers :

12 ÷ 2 = .   45 ÷ 9 = .   28 ÷ 7 = .
2 × 6 = .   9 × 5 = .   7 × 4 = .

Divide :   8) 56   8) 72   8) 48   8) 16   7) 42

Multiply :	8	8	8	8	7
	7	9	6	2	6

Divide :   7) 49   9) 18   5) 10   9) 54   6) 30

Multiply :	7	9	5	9	6
	7	2	2	6	5

Now look at the answers. What is interesting about them? You see that if we multiply the divisor by the answer, we get the same number as the one we set out to divide.

Divide :   8) 40   5) 45   4) 36   6) 24   4) 20

Multiply :	8	5	4	6	4
	5	9	9	4	5

Lesson 66

Division

3) 634	7) 779	2) 867	5) 559
211, R.=1	111, R.=2	433, R.=1	
4) 886	2) 689	3) 698	2) 247
3) 365	4) 445	5) 558	2) 423
4) 486	3) 938	7) 778	6) 667
3) 667	2) 229	4) 847	2) 245
3) 994	5) 557	6) 668	4) 489
2) 445	3) 335	4) 845	8) 889
6) 669	2) 269	3) 397	5) 556

Lesson 67

Dividing again

3) 932	4) 407	8) 809	6) 665
310, R.=2	101, R.=3	101, R.=1	
2) 803	5) 508	2) 609	4) 843
7) 776	3) 607	5) 507	6) 662
6) 609	2) 281	7) 709	9) 998
3) 992	8) 886	9) 908	5) 554
3) 302	8) 887	2) 261	3) 6301
9) 997	2) 201	4) 809	7) 7702
9) 905	4) 443	3) 305	5) 503

Lesson 68 *Can you find the answers?*

1. It took 5 boxes of crayons to give 45 boys one crayon each. How many were there in each box?
2. Meg had 32 cigarette cards. She divided them into 4 equal heaps. How many were in each heap?
3. Mother paid 9 d. for 3 pounds of apples. What must have been the price of 1 pound?
4. It took 18 yards of cloth to make dresses for the girls in Jessie's class. Two yards were needed for each dress. Can you tell how many girls were in the class?

5. There are 60 books in 3 *score* books. How many must there be in one score?
6. We measured a school garden. It was 63 feet long. How many yards was that?

1. Tom had a shilling to spend. He bought 3 d. worth of marbles, a 4 d. ball, and spent the rest on sweets. What did the sweets cost?
2. He went shopping with his mother. She spent 3/5$\frac{1}{2}$ at the grocer's, and 9/4$\frac{3}{4}$ at the baker's. How much change did she get out of 15/-?
3. Tom counted the steps he took to reach the shop. He took 247 to reach it and the same number to come back. How many steps did he walk in all?

4. The grocer had 56 pounds of sugar. He wanted to divide it into 7-pound bags. How many bags could he fill?
5. Begin with 2, and keep on adding 2 until you reach 36. Now divide each of your answers by 2, like this: 2) 2, 2) 4, 2) 6, and so on.

All numbers which divide evenly by 2 and leave no remainders are called *even* numbers.

Lesson 69

Division

5) 259 51, R.=4	4) 327 81, R.=3	6) 309 51, R.=3	8) 329
3) 245	5) 359	4) 126	8) 489
2) 163	6) 488	7) 289	8) 569
5) 154	8) 649	6) 368	7) 146
6) 547	9) 6308	7) 638	5) 4007
8) 7206	7) 568	5) 203	8) 249
6) 424	5) 107	8) 487	7) 5602
8) 249	7) 285	6) 485	5) 303

Lesson 70

Division again

Be very careful on this page.

5) 514 102, R.=4	7) 739 105, R.=4	9) 917 101, R.=8	2) 415
9) 7289	4) 1617	3) 913	7) 4929
8) 878	6) 3658	9) 6359	5) 1534
7) 719	4) 813	6) 639	3) 917
3) 925	8) 4079	9) 937	5) 3043
6) 659	3) 626	2) 815	8) 4866
5) 513	4) 835	3) 623	7) 1469
2) 413	3) 316	9) 988	4) 3237

Lesson 71

Riddles

1. Uncle Jack had saved 246 cigarette pictures. He said he would give one-third to the boy who told him how many that would be. Tom said 76. Jim said 82. Which boy gave the right answer?
2. How many pictures did Uncle Jack have left after he gave one third away?
3. The next week Uncle Jack said that he had 168 pictures, and that he would give one eighth to the boy who told him how many that would be. Jim said 22. Tom said 20. Jack said 21. Which was the right answer?
4. How many had Uncle Jack left after he gave this eighth away?
5. How many more pictures did Uncle Jack need in order to have 246 again?

Now see how quickly you can do this :

6. Begin with 32 and write the *even* numbers until you reach 42.

(Look back at page 109 if you have forgotten what an even number is.)

Lesson 72

Length

1. 27 feet = yards.
2. 42 feet are as long as yards.
3. How many feet are in 3 yards?
4. 11 yards are equal in length to feet.
5. 51 feet are as long as yards.

6. 4 yards are the same length as feet.
7. 57 ft. are as short as yds.
8. 63 ft. are the same length as yds.
9. 13 yds. = feet.
10. 18 ft. are as short as yds.

11. 18 yds. are as long as ft.
12. 20 yards are as long as feet.
13. 21 yds. are the same length as feet.
14. How many yards are equal to 33 feet?

15. 21 feet could be divided into yards.
16. Another name for 15 yards is feet.
17. 24 ft. could be divided into yards.
18. 30 feet of ribbon is yards.
19. 16 yds. are as short as ft.
20. 36 feet could be divided into yds

Lesson 73 *Length again*

Sometimes when we measure things we find that they are one yard or two yards and

a part of a yard in length

We can then measure the part of a yard in feet and inches. Suppose the length is :

1 yard, 2 feet and 5 inches.

We write it like this : 1 yd. 2 ft. 5 in.

1. How many yards are in 16 feet?
2. 28 ft. is another name for yds. ft.
3. yds. ft. = 20 ft.
4. 47 ft. are as long as yds. ft.
5. 19 ft. are as short as yds. ft.
6. yds. ft. is the same as 5 ft.

7. How many feet are in 1 yd. 2 ft.?
8. 5 yds. 2 ft. is another name for feet.
9. 2 yds. 2 ft. is as long as feet.
10. feet = 7 yards, 2 feet.
11. 11 yards 1 foot is equal to feet.

(For revision and tests in money and length, see Book Three, Part One.)

Lesson 74 *A page to climb on*

2) 445	5) 554	6) 249	7) 5627
4) 845	9) 907	8) 409	5) 4524
3) 998	8) 805	6) 187	9) 8139
5) 559	6) 608	7) 428	3) 1217
3) 967	4) 807	6) 308	9) 5488
4) 887	3) 992	8) 249	7) 6338
2) 889	2) 441	5) 409	8) 837
Lesson 66	Lesson 67	Lesson 69	Lesson 70

Lesson 75

Proofs for divisions

Divide :	12 ÷ 2 =	2) 12	9) 63	5) 40
Multiply :	2 × 6 =	2 6	9 7	5 8

You remember that if we multiply the divisor by the answer we get the number we set out to divide. That is very useful when we wish to prove that an answer to a division is correct.

Divide :	3) 15	4) 12	8) 240
Multiply to find out if your answer is correct :	3	4	8
Divide :	5) 25	5) 35	2) 16
Multiply :	5	5	2
Divide :	5) 5	4) 8	2) 4
Multiply :	5	4	2

Lesson 76

Division

Prove each answer by multiplying.

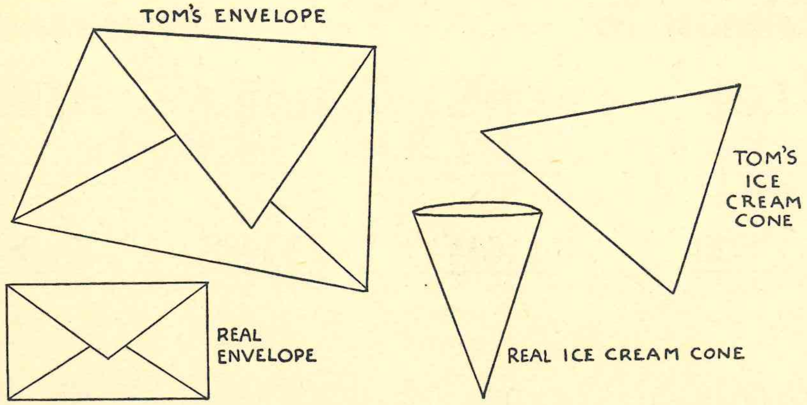
3) 423 141	5) 375 75	4) 688 172	8) 968
7) 378	6) 132	2) 948	9) 261
8) 496	3) 846	5) 655	4) 236
6) 846	5) 335	7) 343	2) 132
4) 356	8) 384	3) 297	6) 534
5) 1155	2) 348	2) 198	7) 8470
3) 2319	6) 966	8) 792	4) 3160
7) 623	9) 594	8) 4960	9) 657

Lesson 77

Division again

Prove each answer by multiplying.

5) 605 121	2) 110 55	9) 207 23	8) 7040
3) 105	5) 905	4) 308	5) 1400
7) 308	3) 204	2) 308	6) 2040
8) 208	5) 705	7) 203	9) 405
7) 504	2) 170	4) 304	6) 4020
8) 504	7) 301	5) 8005	8) 2000
9) 306	6) 408	7) 406	2) 1500
3) 207	2) 908	9) 702	5) 3400



These are Tom's drawings of an envelope and of an ice cream cone.

1. Can you find out two things that are wrong with the envelope?

   Take your " right angle " and measure each angle of a real envelope.

   What kind of a shape is a real envelope?
2. Draw a line $3\frac{1}{2}$ inches long and on it draw a triangle.
3. What shape is the ice cream cone?
4. Measure the cone carefully and draw one twice as big, making each line in it exactly twice as long as the lines in the picture.

Lesson 78

More divisions

3) 424 141, R.=1   8) 7609 951, R.=1   5) 657 131, R.=2   4) 689

6) 4929   3) 1654   2) 1623   5) 3856

7) 5048   4) 926   3) 1324   6) 1388

8) 969   2) 1503   5) 2908   7) 4838

6) 3547   7) 4769   4) 1407   3) 1025

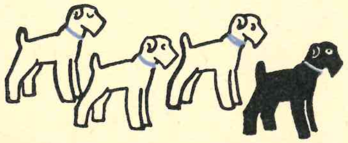
5) 1759   7) 4419   6) 3249   2) 1983

8) 3929   2) 1703   8) 6649   4) 2769

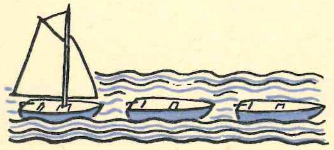
5) 4106   7) 6868   6) 5709   8) 5929

Lesson 79

Puzzle pictures

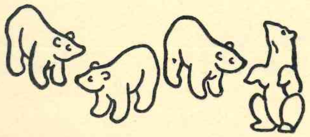


1. Here are four dogs. One of them is black. What part of the whole group is black? The answer is $\frac{1}{4}$ (one quarter).

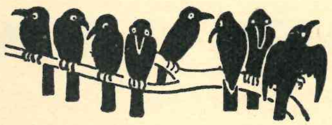


2. Here are 3 boats. One has sails. What *fraction* of the group has sails?

3. Here are 5 mugs. One is broken. What fraction is broken?



4. Here are four bears. One is begging. What fraction is begging?



5. Here are 8 crows. One flew away. What fraction flew away?

Begin at 1 and add on 2's until you reach 35. Divide each answer by 2: 2) 1 0, R.=1, 2) 3 1, R.=1 etc.

Numbers which have remainders when they are divided by 2 are called *odd* numbers.

Lesson 80

Division

3) 555 185	6) 732 122	9) 1017 113	4) 796
2) 1990	7) 4172	8) 992	5) 665
4) 952	9) 2691	2) 332	3) 2097
6) 3522	8) 1592	5) 985	2) 356
7) 994	3) 888	4) 2352	6) 3408
9) 7191	7) 889	8) 3192	3) 777
5) 2995	8) 984	2) 1752	7) 5593
9) 7794	4) 2292	6) 1938	5) 2745

Lesson 81

Division again

5) 1408 281, R.=3	7) 978 139, R.=5	4) 710 177, R.=2	2) 1332
8) 4710	2) 9523	6) 947	9) 1788
2) 1794	4) 2195	3) 2652	6) 5094
7) 4191	5) 940	3) 1432	8) 5519
3) 473	9) 2677	5) 2184	6) 1782
8) 989	3) 1977	7) 5409	2) 757
5) 2998	9) 4301	4) 979	6) 5573
8) 6205	4) 4636	7) 6140	9) 8027

Lesson 82

More divisions

6) 4000 666, R.=4	3) 2023 674, R.=1	5) 7000 1400	8) 8009
4) 2900	2) 3000	7) 6030	9) 9089
8) 5009	6) 2800	5) 4004	2) 1709
7) 4801	3) 2003	4) 2030	6) 7009
9) 4009	2) 7070	7) 9000	8) 3800
6) 2020	4) 9000	9) 2500	2) 1100
3) 2420	7) 8080	5) 6601	3) 3005
8) 3000	5) 2540	9) 1000	4) 5005

Lesson 83

How should I do it?

With each question on this page there are some answers. One of them is correct. Choose the correct answer and copy it in your book.

How many feet are there in 9 yards?

Add 3. Subtract 3. Multiply by 3.

" Multiply by 3 ", is right because there are 3 feet in 1 yard and there are 9 × 3 ft. in 9 yds.

1. What is the sum of 3 and 5 ?

   Add. Subtract. Multiply. Divide.

2. How much change should I get back?

   Add. Subtract. Multiply. Divide.

3. If 2 balls cost 10 d. how much would 1 cost?

   Add 2. Multiply by 2. Divide by 2.

4. How much money is in my purse altogether?

   Add. Subtract. Multiply. Divide.

5. How much more do I need before I can buy a new book?

   Add. Subtract. Multiply. Divide.

6. To how many boys can I give 6 marbles if I have 36 marbles?

   Add 36. Multiply by 6. Divide by 6.

Lesson 84

A page to climb on

3) 195	9) 8649	3) 2931	5) 3984
4) 384	7) 6449	6) 2892	2) 1975
6) 252	5) 1259	7) 5754	9) 5329
7) 483	4) 3529	5) 4140	8) 3183
5) 705	6) 5706	4) 2552	7) 5109
8) 600	2) 1349	8) 5952	6) 5358
9) 702	3) 2917	9) 1098	4) 2136
Lessons 76 and 77	Lesson 78	Lesson 80	Lesson 81

On the next page is a test for you.

Pupils' own test 24

2) 483	3) 158	4) 224	9) 5112
4) 485	5) 356	9) 198	8) 3790
8) 889	7) 218	5) 115	7) 3894
6) 665	7) 3527	8) 344	9) 6169
2) 403	4) 1618	7) 623	6) 5294
3) 661	9) 7219	2) 1720	2) 1753
3) 907	8) 3219	3) 294	4) 2718
Lessons 66 and 67	Lessons 69 and 70	Lesson 76	Lesson 81

A page to race on

How many can you do in three minutes?

3) 995	5) 209	4) 156	5) 1473
4) 446	7) 148	2) 1920	4) 941
2) 629	8) 169	3) 228	9) 5534
2) 805	4) 1215	7) 455	6) 3179
5) 553	5) 3513	6) 342	8) 4698
3) 362	9) 5439	8) 296	7) 5497
6) 608	6) 1859	7) 448	9) 2655

Ask your teacher if you may go on to the next book.